Solid Waste Advisory Committee (SWAC) Meeting Summary
June 26, 2008

Recycling Industry Reimbursement Credit Grant Program: Proposed Target Materials for FY09
and
Discussion of Incentive Approaches and Other Strategies for Recycling Market Development

Peggy Harlow of MassDEP gave a presentation on the Recycling Industry Reimbursement Credit (RIRC) Grant Program. This presentation is posted with these meeting notes. In addition to the presentation, Peggy explained several other points about the RIRC program:

- Eligible activities under RIRC include recycling, processing, and remanufacturing
    - Metals, hazardous waste and waste-to-energy or production of fuels are not eligible under RIRC
- Over the life of the program 68 grants totaling $2.5 million have been awarded
- About 75 percent of grants have been awarded for capital equipment, and the rest for pilot projects and research and development
- The RIRC statute requires that the funds be utilized in Massachusetts

Peggy requested comments on the proposed RIRC FY09 targeted materials list and suggestions for other market-based approaches for MassDEP to consider in its program planning. Attendees offered the following questions and suggestions:

- MassDEP should use the RIRC funds to set up a prize pool for breakthrough innovations, like the prize recently announced by one presidential candidate for a better automobile fuel cell.
- How much residential/commercial carpet waste is generated in Massachusetts? It was suggested that MassDEP work with municipalities to establish carpet collection programs for residents.
    - Greg Cooper of MassDEP stated that waste carpeting may be collected most effectively by working with installers who remove old carpeting, although the quantities and economics of such a collection infrastructure need to be considered.
- Greenhouse gas credit and offset programs may be able to be expanded to provide additional incentives for recycling initiatives.
    - Gretchen Brewer of MassDEP reported that a new organization has just announced a recycling offset credit voluntary certification program, and there is much activity in this area
- State government should implement increased recycled product procurement to strengthen markets for recycled products.
- Amy Perlmutter, former director of the Chelsea Center for Recycling and Economic Development, reported that many of the 100 companies who received technical assistance and other recycling development services from the Chelsea Center while it was in operation are still performing well and suggested that it would be useful to conduct a

follow-up survey of these companies to identify successes, lessons learned, and what assistance was most helpful to them.

- Green building criteria, including LEED criteria, include sourcing building materials locally. Supporting manufacture of building materials locally may provide a good opportunity to increase purchases of recycled content building products (e.g., producing cotton insulation from textile waste.) The Green Roundtable, which includes designers, builders, architects, and others involved in green building, is focused on these issues and may be supportive.
- Another participant pointed out that it may not be possible to produce many recycled materials locally (e.g., Massachusetts does not have steel mills, much of our paper is exported, and construction wood is now being shipped to Montreal for recycling.)
- MassDEP should set permitting requirements for new technologies such as gasification and pyrolysis. With a clear bar set, industry can then proceed to see if they can implement the technologies within the specified requirements
- MassDEP should look at using a Renewable Portfolio Standard approach for recycling activities through which recycling and other diversion could be eligible for credits.

Landfills Last Solid Waste Master Plan Review Study

John Fischer of MassDEP noted that MassDEP has contracted with the Tellus Institute to conduct a study to:

- Summarize existing studies comparing lifecycle environmental and economic impacts of:
  - source reduction and materials reuse, recycling, and composting;
  - alternative technologies such as gasification, pyrolysis, and anaerobic digestion; and
  - disposal in municipal waste combustors and landfills.
- Apply study results to Massachusetts data to explore a future vision for materials management in terms of environmental and economic benefits.
  - Vision should incorporate recommendations for how various options fit together to form a cost-effective materials management system that maximizes resource and economic values of materials formerly viewed as wastes.

James Goldstein of the Tellus Institute presented preliminary, partial findings from this study that is currently in progress. Subcontractors for this project are Cascadia Consulting and Sound Resource Management. This presentation is posted with these meeting notes. James noted several key points about the study:

- The review of alternative technologies represents a snapshot in time and may change significantly in the future.
- The life cycle and cost benefit analysis of environmental impacts of traditional solid waste management alternatives (recycling, composting, incineration with energy recovery, landfilling with or without landfill gas recovery) is being done using the Morris Model developed by Jeff Morris of Sound Resources Group, a subcontractor to Tellus on the study. Summary findings from this model include:

- Recycling and composting yield substantially higher energy savings than incineration and landfills
- Recycling and composting produce substantially lower greenhouse gas emissions than incineration and landfills
- On several other measures (e.g., eutrophication, toxic emissions, acidification) recycling and composting out-perform incineration and landfills

Following the presentation, attendees had the following comments/questions:

Literature Review of Alternative Technologies

- While alternative technologies such as pyrolysis may have some negative impacts, the potential for local energy creation is worth pursuing. The importance of energy creation seems to be understated in the presentation; this should be given greater emphasis.
- The presentation has omitted information available in published reports for New York City, Los Angeles, and the California Integrated Waste Management Board (CIWMB) regarding existing operating gasification and pyrolysis facilities. One participant stated that seven gasification plants are operating in Japan alone, and one processing 700 tons per day has been online since 1999.
- Several participants expressed concern that the alternative technologies have not been fully and fairly evaluated.
- James Goldstein said that the Tellus team has reviewed the Los Angeles and CIWMB reports and many others, but will reexamine these reports, as well as information on any other published studies that attendees are aware of to ensure that the literature review is as complete as possible and accurate.

Lifecycle Environmental Analysis Model

- Many participants raised questions and expressed concerns about the information and assumptions on which the model results are based. James Goldstein noted that a full explanation of the model assumptions, calculations, sources, and values will be included in the final study, but that it was not possible to cover this level of detail within this meeting. Specific questions and comments raised included:
    - Does the model take into account energy recovery and metals recovery from municipal waste combustors? (yes, these factors are included)
    - Do the energy calculations include transportation to materials markets? (yes, this transportation is included)
    - The carbon dioxide impact of municipal waste combustion should be evaluated on a net basis taking into account displacement of fossil fuels.
    - The recycling/disposal comparison should be applied for mixed MSW, as well as individual components of the waste stream as shown in the Morris Model findings.
    - Given the uncertainty of the model, the value of pollution reductions should be given in ranges (James Goldstein stated that net values by material category are given in ranges.)

- Impacts and benefits for alternative technologies should also be included in the life cycle analysis in the report
- The usefulness of life cycle assessment is limited unless it is applied to specific situations and uses specific data. It would be useful to be able to apply the model results on a local level as well as the state level.
- The model assumptions and analysis should undergo a peer review, especially regarding the portion of the waste stream that is not recycled. James Goldstein noted that the Morris Model has been peer-reviewed extensively and that he will provide this documentation to MassDEP.

Other Comments

- The remaining work on the study should focus more on ensuring that the literature review is complete, rather than refining the model, as the model findings will always be uncertain.
- The study should consider other technologies such as fuel cells and MSW co-composting, as well as other program strategies such as public education.
- The 10-year planning timeframe identified in the presentation is too short. MassDEP should use a 20-year planning horizon so that we do not dismiss technologies that may be useful in 5-10 years.
- Greater emphasis should be placed on up-front waste reduction as part of the program recommendations.

Next Steps

- Several participants urged that the report be made available for public review and comment before it is finalized, so that additional information that may be missing can be provided to supplement Tellus' findings.
- John Fischer explained that this report will not be a MassDEP document, but rather will be a report to MassDEP that will serve as one of a number of sources of information to inform MassDEP's policy proposals.

Next Meeting

The next SWAC meeting will be on Thursday, October 23, 2008, from 1:00 to 3:30 PM.